Safety Data Sheet
acc. to OSHA HCS

Printing date 08/16/2024 Reviewed on 08/16/2024

1 Identification

· **Product identifier**

· **Trade name: Electropure Copper Sulfate Solution**

· **Article number:** ND681

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Aqua Solutions, Inc.
6913 Highway 225
DEER PARK, TX 77536
USA
800-256-2586

· **Information department:**
Technical Coordinator
Sherman Nelson shermann@aquasolutions.org
· **Emergency telephone number:**
Chemtrec: 800-424-9300
Canutec: 613-996-6666

*
2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS08 Health hazard

Carcinogenicity 1A H350 May cause cancer.

GHS05 Corrosion

Eye Damage 1 H318 Causes serious eye damage.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**


GHS05 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Cupric Sulfate Pentahydrate
Sulfuric Acid 96 - 98%
· **Hazard statements**
Causes serious eye damage.
May cause cancer.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Electropure Copper Sulfate Solution

(Contd. of page 1)

Immediately call a poison center/doctor.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

*Health = *3*
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** *Not applicable.*
· **vPvB:** *Not applicable.*

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** *Mixture of the substances listed below with nonhazardous additions.*

· **Dangerous components:**		
CAS: 7758-99-8	Cupric Sulfate Pentahydrate	23.464%
CAS: 7664-93-9	Sulfuric Acid 96 - 98%	0.319%

· **Table of Nonhazardous Ingredients**		
CAS: 7732-18-5	Water	76.217%

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*
· **After skin contact:** *Generally the product does not irritate the skin.*
· **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
· **After swallowing:** *If symptoms persist consult doctor.*
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** *Use fire fighting measures that suit the environment.*
· **Special hazards arising from the substance or mixture** *No further relevant information available.*

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/16/2024 Reviewed on 08/16/2024

Trade name: Electropure Copper Sulfate Solution

(Contd. of page 2)

· ***Advice for firefighters***
· ***Protective equipment:*** *No special measures required.*

6 Accidental release measures

· ***Personal precautions, protective equipment and emergency procedures***
Wear protective equipment. Keep unprotected persons away.
· ***Environmental precautions:***
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· ***Methods and material for containment and cleaning up:***
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
· ***Reference to other sections***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
· ***Protective Action Criteria for Chemicals***

· ***PAC-1:***		
CAS: 7758-99-8	*Cupric Sulfate Pentahydrate*	*12 mg/m³*
CAS: 7664-93-9	*Sulfuric Acid 96 - 98%*	*0.20 mg/m³*

· ***PAC-2:***		
CAS: 7758-99-8	*Cupric Sulfate Pentahydrate*	*32 mg/m³*
CAS: 7664-93-9	*Sulfuric Acid 96 - 98%*	*8.7 mg/m³*

· ***PAC-3:***		
CAS: 7758-99-8	*Cupric Sulfate Pentahydrate*	*190 mg/m³*
CAS: 7664-93-9	*Sulfuric Acid 96 - 98%*	*160 mg/m³*

7 Handling and storage

· ***Handling:***
· ***Precautions for safe handling***
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
· ***Information about protection against explosions and fires:*** *Keep respiratory protective device available.*

· ***Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** *No special requirements.*
· ***Information about storage in one common storage facility:*** *Not required.*
· ***Further information about storage conditions:*** *Keep receptacle tightly sealed.*
· ***Specific end use(s)*** *No further relevant information available.*

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/16/2024 Reviewed on 08/16/2024

Trade name: Electropure Copper Sulfate Solution

(Contd. of page 3)

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

CAS: 7664-93-9 Sulfuric Acid 96 - 98%	
PEL	Long-term value: 1 mg/m³
REL	Long-term value: 1 mg/m³
TLV	Long-term value: 0.2* mg/m³ *as thoracic fraction, A2

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/16/2024 Reviewed on 08/16/2024

Trade name: Electropure Copper Sulfate Solution

(Contd. of page 4)

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Color:	Blue
· **Odor:**	Odorless
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure at 20 °C (68 °F):**	23 hPa (17.3 mm Hg)
· **Density at 20 °C (68 °F):**	1.30396 g/cm³ (10.88155 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Water:	76.2 %
VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
Solids content:	23.5 %
· **Other information**	No further relevant information available.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Electropure Copper Sulfate Solution

(Contd. of page 5)

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** Strong irritant with the danger of severe eye injury.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
CAS: 7664-93-9	Sulfuric Acid 96 - 98%	1

· **NTP (National Toxicology Program)**		
CAS: 7664-93-9	Sulfuric Acid 96 - 98%	K

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/16/2024 Reviewed on 08/16/2024

Trade name: Electropure Copper Sulfate Solution

(Contd. of page 6)

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

*

14 Transport information

· **UN-Number**	
· **DOT, IMDG, IATA**	UN3082
· **UN proper shipping name**	
· **DOT**	Environmentally hazardous substance, liquid, n.o.s. (Cupric Sulfate Pentahydrate)
· **IMDG, IATA**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cupric Sulfate Pentahydrate)
· **Transport hazard class(es)**	
· **DOT**	
· **Class**	9 Miscellaneous dangerous substances and articles
· **Label**	9
· **IMDG, IATA**	
· **Class**	9 Miscellaneous dangerous substances and articles
· **Label**	9
· **Packing group**	
· **DOT, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (IATA):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Miscellaneous dangerous substances and articles
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **IATA**	
· **Remarks:**	> 5 l: Class 9

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/16/2024 Reviewed on 08/16/2024

Trade name: Electropure Copper Sulfate Solution

(Contd. of page 7)

· **UN "Model Regulation":** UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CUPRIC SULFATE PENTAHYDRATE), 9, III

*

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**

CAS: 7664-93-9	Sulfuric Acid 96 - 98%

· **Section 313 (Specific toxic chemical listings):**

CAS: 7758-99-8	Cupric Sulfate Pentahydrate
CAS: 7664-93-9	Sulfuric Acid 96 - 98%

· **TSCA (Toxic Substances Control Act):**

Water	ACTIVE
Sulfuric Acid 96 - 98%	ACTIVE

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

CAS: 7664-93-9	Sulfuric Acid 96 - 98%	A2

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS05 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Cupric Sulfate Pentahydrate

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Electropure Copper Sulfate Solution

(Contd. of page 8)

Sulfuric Acid 96 - 98%

· **Hazard statements**
Causes serious eye damage.
May cause cancer.

· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
Exceptions can be made by the authorities in certain cases.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

*
16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Environment protection department.
· **Contact:**
Date of Preparation / Last Revision:
· **Date of preparation / last revision**
Revision 1.2, 08-16-2024: Reviewed SDS for accuracy. STN/GW
08/16/2024 / 1.1
· **Abbreviations and acronyms:**
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Carcinogenicity 1A: Carcinogenicity – Category 1A
· *** Data compared to the previous version altered.**